

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

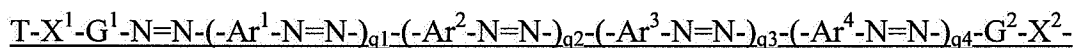
**LISTING OF CLAIMS:**

1. (currently amended): A polymerizable dichroic azo dye of the general formula I:

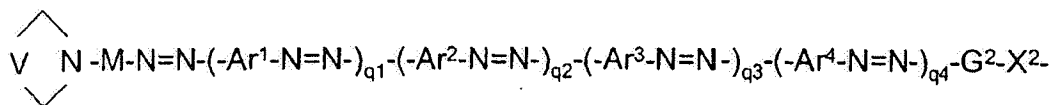


wherein:

A is a dichroic residue represented by formulae IIIa or IIIb:



IIIa



IIIb

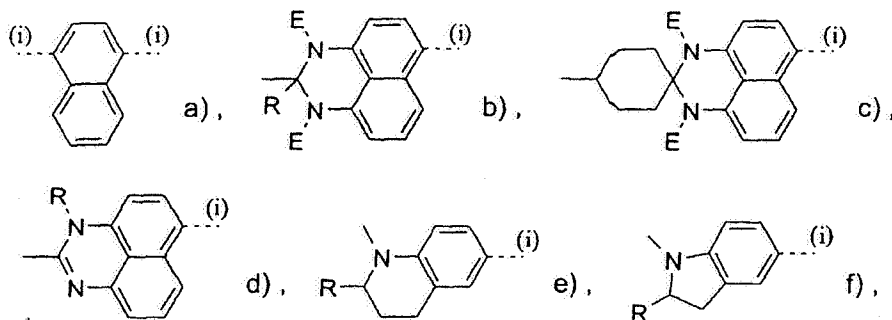
wherein

Ar<sup>1</sup>, Ar<sup>2</sup>, Ar<sup>3</sup>, Ar<sup>4</sup> independently of each other are 1,4-phenylene, 1,4- or 1,5-naphthylene, which are unsubstituted, mono- or poly-substituted by fluorine, chlorine, hydroxy, -NR<sup>1</sup>R<sup>2</sup> or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent CH<sub>2</sub> groups may independently be replaced by Q, wherein Q represents -O-, -CO-, -CO-O-,

-O-CO-, -Si(CH<sub>3</sub>)<sub>2</sub>-O-Si(CH<sub>3</sub>)<sub>2</sub>-, -NR-, -NR-CO-, -CO-NR-, -NR-CO-O-, -O-CO-NR-, -NR-CO-NR-, -CH=CH-, -C≡C-, or -O-CO-O-, wherein R represents hydrogen or a straight chain or branched hydrocarbon radical having 1 to 6 carbon atoms, and R<sup>1</sup> and R<sup>2</sup> independently represent hydrogen or a straight chain or branched chain hydrocarbon radical having 1 to 6 carbon atoms;

q<sup>1</sup>, q<sup>2</sup>, q<sup>3</sup>, q<sup>4</sup> independently are 0 or 1;

G<sup>1</sup>, G<sup>2</sup> represent independently of each other 1,4-phenylene or a group of formula a) to f)



which are unsubstituted, mono- or poly-substituted by fluorine, chlorine, hydroxy, -NR<sup>1</sup>R<sup>2</sup> or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may optionally be replaced by -O-, -CO-O-, -O-CO-, -NR<sup>1</sup>-CO-, -CO-NR<sup>1</sup>-, -NR<sup>1</sup>-CO-O-, -O-CO-NR<sup>1</sup>-, -CH=CH-, -C≡C-, -O-CO-O-, wherein R<sup>1</sup> and R<sup>2</sup> independently represent hydrogen or a straight chain or branched hydrocarbon radical having 1 to 6 carbon atoms and

~~A~~ represents a ~~dichroic residue, which may comprise one or more polymerizable groups PG, exhibiting at least partial absorption in the visible region between 400 nanometer and 800 nanometer and comprising at least one azo-binding group that is linked to at least one radical of formula a) to f) shown below,~~

~~which radical of formula a) to f) may be unsubstituted, mono- or poly-substituted by fluorine, chlorine, hydroxy,  $\text{NR}^1\text{R}^2$  or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent  $\text{CH}_2$  groups may independently be replaced by  $\text{O}$ ,  $\text{CO O}$ ,  $\text{O CO}$ ,  $\text{NR}^1\text{CO}$ ,  $\text{CO NR}^1$ ,  $\text{NR}^1\text{CO O}$ ,  $\text{O CO NR}^1$ ,  $\text{CH=CH}$ ,  $\text{C=C}$ ,  $\text{O CO O}$ , wherein  $\text{R}^1$  and  $\text{R}^2$  independently represent hydrogen or lower alkyl,~~

wherein the broken line (i) symbolizes the possible linkages to the azo-binding group and wherein

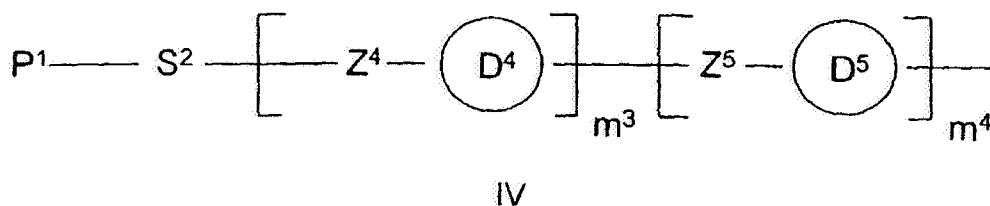
R represents hydrogen or ~~lower alkyl~~ a straight chain or branched hydrocarbon radical having 1 to 6 carbon atoms;

E each independently represents hydrogen, ~~lower alkyl, lower acyl~~ a straight chain or branched hydrocarbon radical having 1 to 6 carbon atoms, or acetyl, propionyl, butyryl, isobutyryl, or a polymerizable group selected from acryloyl or methacryloyl;

M represents 1,4-phenylene, 1,4-naphthylene which are unsubstituted, mono- or poly-substituted by fluorine, chlorine, hydroxy,  $\text{-NR}^1\text{R}^2$  or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or

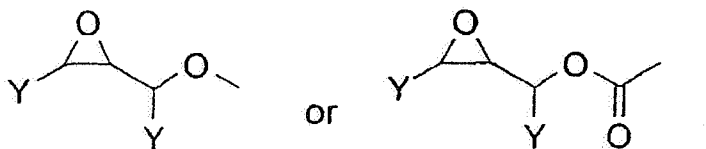
poly-substituted by fluorine, and wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may optionally be replaced by -O-, -CO-O-, -O-CO-, -NR<sup>1</sup>-CO-, -CO-NR<sup>1</sup>-, -NR<sup>1</sup>-CO-O-, -O-CO-NR<sup>1</sup>-, -CH=CH-, -C≡C-, -O-CO-O-, wherein R<sup>1</sup> and R<sup>2</sup> independently represent hydrogen or a straight chain or branched hydrocarbon radical having 1 to 6 carbon atoms;

T represents a group of substructure IV



wherein

P<sup>1</sup> represents hydrogen, halogeno, cyano, nitro or a polymerizable group PG; which is CH<sub>2</sub>=CY-, CH<sub>2</sub>=CY-COO-, CH<sub>2</sub>=CH-CO-NH-, CH<sub>2</sub>=C(Ph)-CO-NH-, CH<sub>2</sub>=CH-O-, CH<sub>2</sub>=CH-OOC-, Ph-CH=CH-, CH<sub>2</sub>=CH-Ph-, CH<sub>2</sub>=CH-Ph-O-, CH<sub>2</sub>=CH-Ph-OCO-, R<sup>3</sup>-Ph-CH=CH-COO-, R<sup>2</sup>-OOC-CH=CH-Ph-O-, N-maleinimidyl,



wherein Y each independently represents hydrogen, chloro or methyl, R<sup>2</sup> is hydrogen or straight chain or branched hydrocarbonoxy radicals having 1 to 6 carbon atoms, Ph- is phenyl and -Ph- is 1,4-phenylene,

S<sup>2</sup> represents a single covalent bond or a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 24 carbon atoms, wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may optionally be replaced by Q, wherein Q has the meaning given above and such that heteroatoms are not directly linked to each other;

Z<sup>4</sup>, Z<sup>5</sup> each independently represent a single covalent bond or a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 8 carbon atoms, wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may be optionally replaced by Q or -CR=C-CO-, wherein Q and R have the meaning given above; and

D<sup>4</sup>, D<sup>5</sup> each independently represent an aromatic or alicyclic group, which is unsubstituted or substituted by fluorine, chlorine, cyano, nitro, or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may optionally be replaced by Q, wherein Q has the meaning given above;

m<sup>3</sup> and m<sup>4</sup> are independently of each other 0 or 1;

X<sup>1</sup>, X<sup>2</sup> represent independently of each other a single covalent bond or a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 8 carbon atoms, wherein one or more of the non-adjacent CH<sub>2</sub> groups independently from each other may

optionally be replaced by -O-, -CO-, -CO-O-, -O-CO-, -Si(CH<sub>3</sub>)<sub>2</sub>-O-Si(CH<sub>3</sub>)<sub>2</sub>-, -  
NW-, -NW-CO-, -CO-NW-, -NW-CO-O-, -O-CO-NW-, -NW-CO-NW-, -  
CH=CH-, -C≡C-, -O-CO-O- or -CW=C-CO-,

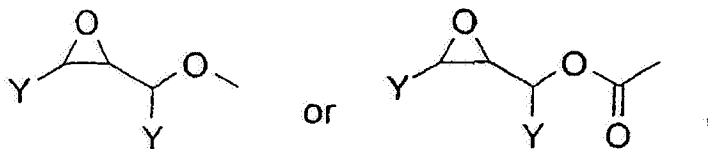
wherein W represents a group of substructure V

P<sup>2</sup>-Sp-\_\_\_\_\_V

wherein

P<sup>2</sup> represents hydrogen, cyano or a polymerizable group PG, which is

CH<sub>2</sub>=CY-, CH<sub>2</sub>=CY-COO-, CH<sub>2</sub>=CH-CO-NH-, CH<sub>2</sub>=C(Ph)-CO-NH-,  
CH<sub>2</sub>=CH-O-, CH<sub>2</sub>=CH-OOC-, Ph-CH=CH-, CH<sub>2</sub>=CH-Ph-, CH<sub>2</sub>=CH-Ph-  
O-, CH<sub>2</sub>=CH-Ph-OCO-, R<sup>3</sup>-Ph-CH=CH-COO-, R<sup>2</sup>-OOC-CH=CH-Ph-O-,  
N-maleinimidyl,



wherein Y each independently represents hydrogen, chloro or methyl, R<sup>2</sup>  
is hydrogen or a straight chain or branched hydrocarbon radical having 1  
to 6 carbon atoms, R<sup>3</sup> is hydrogen or a straight chain or branched  
hydrocarboxy radical having 1 to 6 carbon atoms, Ph- is phenyl and -  
Ph- is 1,4-phenylene,

and

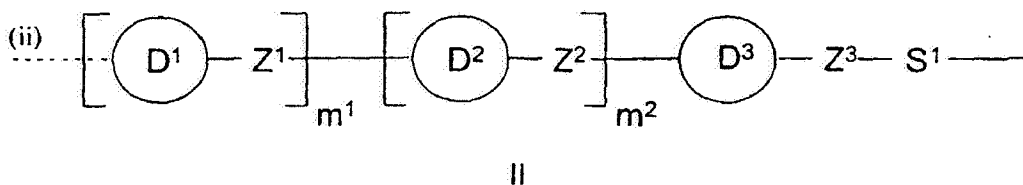
Sp represents a single covalent bond or a straight-chain or branched alkylene  
residue, which is unsubstituted, mono-substituted by cyano or halogeno, or  
poly-substituted by halogeno, having 1 to 5 carbon atoms, wherein one or

more of the non-adjacent CH<sub>2</sub> groups independently from each other may optionally be replaced by -O-, -CO-, -CO-O-, -O-CO-, such that heteroatoms are not directly linked to each other;

V is selected from a group consisting of a single covalent bond, -CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-O-CH<sub>2</sub>-, -CH<sub>2</sub>-NT-CH<sub>2</sub>-, -CH<sub>2</sub>-(CH<sub>2</sub>)<sub>2</sub>-CH<sub>2</sub>-, wherein T has the meaning given above;

with the proviso that if G<sup>1</sup>, G<sup>2</sup> and M are optionally substituted 1,4-phenylene, at least one of Ar<sup>1</sup>, Ar<sup>2</sup>, Ar<sup>3</sup> or Ar<sup>4</sup> is optionally substituted 1,4-naphthylene;

B represents a group of substructure II



wherein the broken line (ii) symbolizes the linkage to said dichroic residue and wherein:

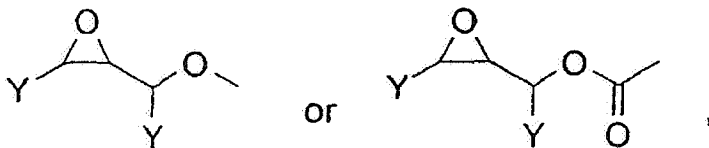
D<sup>1</sup>, D<sup>2</sup>, D<sup>3</sup> each independently represents an aromatic or alicyclic group, which is unsubstituted or substituted by fluorine, chlorine, cyano, nitro, or by a straight chain or branched alkyl residue having 1-10 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine and wherein one or more of the non-adjacent CH<sub>2</sub> groups may independently from each other may optionally be replaced by Q, whereby Q represents -O-, -CO-, -CO-O-, -O-CO-, -Si(CH<sub>3</sub>)<sub>2</sub>-O-Si(CH<sub>3</sub>)<sub>2</sub>-, -NR-, -NR-CO-, -CO-NR-, -NR-CO-O-, -O-CO-NR-, -NR-CO-NR-, -CH=CH-, -C≡C-, -O-CO-O- and R has the meaning given above;

$S^1$  represents a single covalent bond or ~~a spacer unit, such as~~ a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 24 carbon atoms, wherein one or more of the non-adjacent  $CH_2$  groups ~~may independently~~ from each other may optionally be replaced by Q, wherein Q has the meaning given above and wherein heteroatoms are not directly linked to each other;

$Z^1, Z^2, Z^3$  each independently represents a single covalent bond or ~~a spacer unit, such as~~ a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 8 carbon atoms, wherein one or more of the non-adjacent  $CH_2$  groups ~~may independently~~ from each other may optionally be replaced by Q or  $-CR=C-CO-$ , wherein Q and R have the meaning given above;

$m^1, m^2$  independently are 0 or 1; and

P represents hydrogen, halogeno, cyano, nitro or a polymerizable group PG, which is  $CH_2=CY-$ ,  $CH_2=CY-COO-$ ,  $CH_2=CH-CO-NH-$ ,  $CH_2=C(Ph)-CO-NH-$ ,  $CH_2=CH-O-$ ,  $CH_2=CH-OOC-$ ,  $Ph-CH=CH-$ ,  $CH_2=CH-Ph-$ ,  $CH_2=CH-Ph-O-$ ,  $CH_2=CH-Ph-OCO-$ ,  $R^3-Ph-CH=CH-COO-$ ,  $R^2-OOC-CH=CH-Ph-O-$ , N-maleinimidyl,



wherein Y each independently represents hydrogen, chloro or methyl,  $R^2$  is hydrogen or a straight chain or branched hydrocarbon radical having 1 to 6 carbon



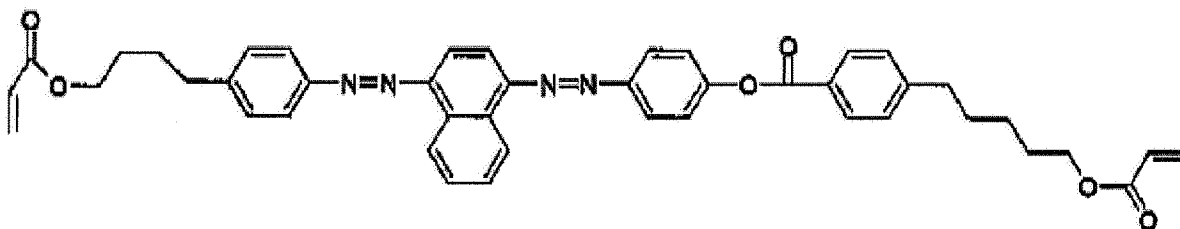
atoms,  $R^3$  is hydrogen or a straight chain or branched hydrocarbonoxy radical

having 1 to 6 carbon atoms, Ph- is phenyl and -Ph- is 1,4-phenylene;

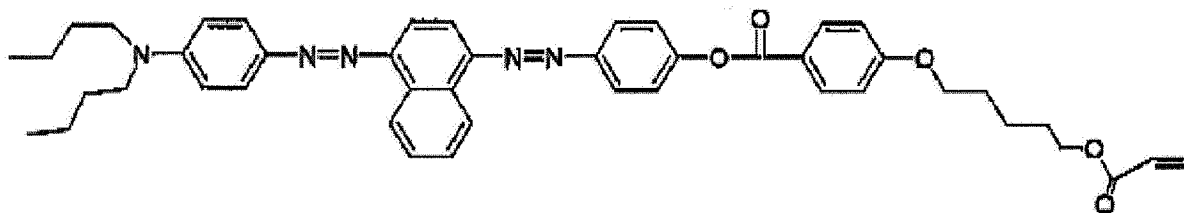
and

with the proviso that the compound of formula I comprises at least one polymerizable group PG  
within the above given meaning,

with the proviso that the compounds of the following formulae



and

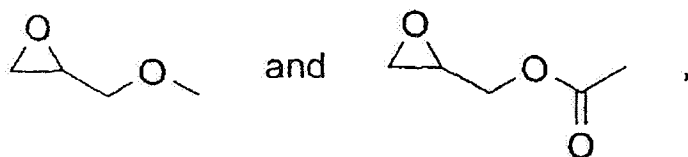


are excluded.

2. (canceled).

3. (canceled).

4. (currently amended): A polymerizable dichroic azo dye according to ~~claim 3~~ claim 1,  
wherein the polymerizable groups PG are  $\text{CH}_2=\text{CY}-$ ,  $\text{CH}_2=\text{CY}-\text{COO}-$ ,  $\text{CH}_2=\text{CH}-\text{O}-$ ,  $\text{CH}_2=\text{CH}-$   
 $\text{OOC}-$ ,  $\text{CH}_2=\text{CH}-\text{Ph}-\text{O}-$ ,  $\text{CH}_2=\text{CH}-\text{Ph}-\text{OCO}-$ ,



wherein Y is hydrogen or methyl.

5. (currently amended): A polymerizable dichroic azo dye according to ~~claim 3~~ claim 1, wherein the polymerizable groups PG are  $\text{CH}_2=\text{CY}-\text{COO}-$ ,  $\text{CH}_2=\text{CH}-\text{O}-$  and  $\text{CH}_2=\text{CH}-\text{OOC}-$ , wherein Y is hydrogen or methyl.

6. (currently amended): A polymerizable dichroic azo dye according to ~~any preceding~~ claim 1, wherein rings  $\text{D}^1$ ,  $\text{D}^2$ ,  $\text{D}^3$ ,  $\text{D}^4$  and  $\text{D}^5$  independently of each other are unsubstituted, saturated five- or six-membered alicyclic rings or six- or ten-membered aromatic rings, which are unsubstituted, mono- or poly-substituted by fluorine or chlorine or nitro or by a straight chain or branched alkyl residue having 1-6 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent  $\text{CH}_2$  groups may independently be replaced by  $-\text{O}-$ ,  $-\text{CO}-\text{O}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{NR}^2-\text{CO}-$ ,  $-\text{CO}-\text{NR}^2-$ ,  $-\text{NR}^2-\text{CO}-\text{O}-$ ,  $-\text{O}-\text{CO}-\text{NR}^2-$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-\text{O}-\text{CO}-\text{O}-$ , wherein  $\text{R}^2$  represents hydrogen or lower alkyl.

7. (original): A polymerizable dichroic azo dye according to claim 6, wherein rings  $\text{D}^1$ ,  $\text{D}^2$ ,  $\text{D}^3$ ,  $\text{D}^4$  and  $\text{D}^5$  are unsubstituted cyclopentane-1,3-diyl, unsubstituted 1,3-dioxane-2,5-diyl, unsubstituted cyclohexane-1,4-diyl, unsubstituted naphthalene-2,6-diyl or 1,4-phenylene, which is unsubstituted, mono- or poly-substituted by fluorine or chlorine or by a straight-chain or branched alkyl residue having 1-3 carbon atoms, which alkyl residue is unsubstituted, mono- or poly-substituted by fluorine, and wherein one or more of the non-adjacent  $\text{CH}_2$  groups may independently be replaced by  $-\text{O}-$ ,  $-\text{CO}-\text{O}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{C}\equiv\text{C}-$ .

8. (original): A polymerizable dichroic azo dye according to claim 6, wherein rings  $\text{D}^1$ ,  $\text{D}^2$ ,  $\text{D}^3$ ,  $\text{D}^4$  and  $\text{D}^5$  are 1,4-phenylene, which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, methyl, methoxy, acyl or  $-\text{CO}-\text{O}-\text{CH}_3$ .

9. (currently amended): A polymerizable dichroic azo dye according to ~~any preceding~~ claim 1, wherein the  $S^1$  and  $S^2$  comprise a single bond, or a straight-chain or branched alkylene grouping, ~~such as  $-(CH_2)_r$ , and also or  $-(CH_2)_r-O-(CH_2)_s$ ,  $-(CH_2)_r-CO-O-(CH_2)_s$ ,  $-(CH_2)_r-O-CO-(CH_2)_s$ ,  $-(CH)_r-NR^2-CO-(CH_2)_s$ ,  $-(CH_2)_r-NR^2-CO-O-(CH_2)_s$ ,  $-(CH_2)_r-(OCH_2CH_2)_s-(CH_2)_t$~~  wherein  $r$ ,  $s$  and  $t$  are each an integer from 1 to 20, the sum of  $r + s + t \leq 21$ , wherein  $R^2$  represents hydrogen or lower alkyl, and which are attached to the dichroic residue and the polymerizable group, respectively, such that heteroatoms are not directly linked to each other.

10. (original): A polymerizable dichroic azo dye according to claim 9, wherein  $S^1$  and  $S^2$  are a single bond or a  $C_{1-14}$  straight-chain alkylene group, especially ethylene, propylene, butylene, pentylene, hexylene, heptylene, octylene, nonylene, decylene, undecylene, or dodecylene.

11. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 10~~ claim 1, wherein  $S_p$  is a single bond, or a straight-chain or branched alkylene grouping, ~~such as a  $C_{1-5}$  straight-chain alkylene group, and also or  $-(CH_2)_u-O-(CH_2)_v$ ,  $-(CH_2)_u-CO-O-(CH_2)_v$ ,  $-(CH_2)_u-O-CO-(CH_2)_v$~~ , wherein  $u$  and  $v$  are each an integer from 1 to 4, the sum of  $u + v \leq 4$ .

12. (original): A polymerizable dichroic azo dye according to claim 11, wherein  $S_p$  is a single bond and a  $C_{1-5}$  straight-chain alkylene group, especially ethylene, propylene, butylene or pentylene.

13. (currently amended): A polymerizable dichroic azo dye according to ~~any preceding~~ claim 1, wherein  $Z^1$ ,  $Z^2$ ,  $Z^3$ ,  $Z^4$  and  $Z^5$  are a single covalent bond or a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted or poly-substituted by fluoro, having 1 to 8 carbon atoms, wherein one or more of the non-adjacent  $CH_2$  groups may independently be

replaced by -O-, -CO-, -CO-O-, -O-CO-, -NR<sup>2</sup>-CO-, -CO-NR<sup>2</sup>-, -NR<sup>2</sup>-CO-O-, -O-CO-NR<sup>2</sup>-, -CH=CH-, -C≡C-, -O-CO-O-, -CR<sup>2</sup>=C-CO-, wherein R<sup>2</sup> represents hydrogen or lower alkyl.

14. (original): A polymerizable dichroic azo dye according to claim 13, wherein Z<sup>1</sup>, Z<sup>2</sup>, Z<sup>3</sup>, Z<sup>4</sup> and Z<sup>5</sup> groups are a single covalent bond or a straight-chain or branched alkylene residue, having 1 to 4 carbon atoms, wherein one or more of the non-adjacent CH<sub>2</sub> groups may independently be replaced by -O-, -CO-O-, -O-CO-, -CH=CH-, -C≡C-, -O-CO-O-, -CR<sup>2</sup>=C-CO-, wherein R<sup>2</sup> represents hydrogen or lower alkyl.

15. (original): A polymerizable dichroic azo dye according to claim 14, wherein Z<sup>1</sup>, Z<sup>2</sup>, Z<sup>3</sup>, Z<sup>4</sup> and Z<sup>5</sup> are each independently selected from a group consisting of a single covalent bond, -CO-O-, -O-CO-, -CH<sub>2</sub>-O- or -O-CH<sub>2</sub>-.

16. (currently amended): A polymerizable dichroic azo dye according to ~~any preceding~~ claim 1, wherein E represents hydrogen, methyl, acetyl, acryloyl and methacryloyl, especially hydrogen, methyl and acetyl.

17. (currently amended): A polymerizable dichroic azo dye according to ~~any preceding~~ claim 1, wherein the sum of the integers m<sup>1</sup> + m<sup>2</sup> is 0 or 1.

18. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 17~~ claim 1, wherein the sum of the integers q<sup>1</sup> + q<sup>2</sup> + q<sup>3</sup> + q<sup>4</sup> is 0, 1, 2.

19. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 18~~ claim 1, wherein X<sup>1</sup> and X<sup>2</sup> when linked to 1,4-phenylene or 1,4-naphthylene each independently represent a single covalent bond, -CO-O-, -O-CO-, -CH<sub>2</sub>-O-, -O-CH<sub>2</sub>-, -NW-, -CH<sub>2</sub>-NW-, -NW-CH<sub>2</sub>-, -N=CR-, -CR=N-, -NW-CO- or -CO-NW-, ~~and preferably CO-O-, O-CO-, CH<sub>2</sub>-O-, O-CH<sub>2</sub>-, NR- or CH<sub>2</sub>-NR-, NR-CH<sub>2</sub>-, NR-CO- or CO-NR-,~~ wherein W and R ~~have~~ has the meaning given above.

20. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 18~~ claim 1, wherein  $X^1$  and  $X^2$  when linked to a group of formula b), c) or d) each independently represent a single covalent bond,  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{O}-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{NW}-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{CH}=\text{CH}-$ ,  $-\text{O}-\text{CH}_2-\text{CH}_2-\text{CH}_2\ldots^{(iv)}$  or  $-\text{NW}-\text{CH}_2-\text{CH}_2-\text{CH}_2\ldots^{(iv)}$ , ~~preferably a single covalent bond,  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{O}-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{NW}-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{CH}=\text{CH}-$ , and most preferably a single covalent bond or  $-\text{CH}_2-\text{CH}_2-$~~ , wherein W has the meaning given above and the broken lines (iv) symbolize the linkage to the groups of formula b), c) or d).

21. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 18~~ claim 1, wherein  $X^1$  and  $X^2$  when linked to a group of formula e) or f) each independently represent  $-\text{CH}_2-$ ,  $-\text{CO}-$ ,  $-\text{CH}_2-\text{CH}_2-\text{CH}_2-$ ,  $-\text{O}-\text{CH}_2-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{NW}-\text{CH}_2-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{CH}=\text{CH}-\text{CH}_2\ldots^{(iv)}$ ,  $-\text{OCO}-\text{CH}_2\ldots^{(iv)}$  or  $-\text{CH}_2-\text{OCO}\ldots^{(iv)}$ , ~~and preferably  $-\text{CH}_2-$  or  $-\text{CO}-$~~ , wherein W has the meaning given above and the broken lines (iv) symbolize the linkage to the groups of formula e) or f).

22. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 18~~ claim 1, wherein V is selected from a group consisting of  $-\text{CH}_2-\text{CH}_2-$ ,  $-\text{CH}_2-\text{CH}_2-\text{CH}_2-$  or  $-\text{CH}_2-\text{O}-\text{CH}_2-$ .

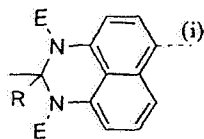
23. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~ ~~claims 2 to 18~~ claim 1, wherein M is 1,4-phenylene, which is unsubstituted, monosubstituted by chlorine or  $-\text{CH}_3$ , with the proviso that at least one of  $\text{Ar}^1$ ,  $\text{Ar}^2$ ,  $\text{Ar}^3$  or  $\text{Ar}^4$  is optionally substituted 1,4-naphthylene.

24. (original): A polymerizable dichroic azo dye according to claim 23, wherein M is unsubstituted 1,4-phenylene, with the proviso that at least one of  $\text{Ar}^1$ ,  $\text{Ar}^2$ ,  $\text{Ar}^3$  or  $\text{Ar}^4$  is 1,4-naphthylene.

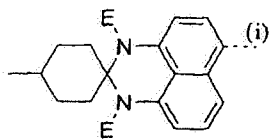
25. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~  
~~claims 2 to 24~~ claim 1, wherein Ar<sup>1</sup>, Ar<sup>2</sup>, Ar<sup>3</sup> and Ar<sup>4</sup> independently of each other are 1,4-  
phenylene or 1,4-naphthylene, which are unsubstituted, mono- or disubstituted by fluorine,  
chlorine, -OCH<sub>3</sub> or -CH<sub>3</sub>, with the proviso that at least one of Ar<sup>1</sup>, Ar<sup>2</sup>, Ar<sup>3</sup> or Ar<sup>4</sup> is optionally  
substituted 1,4-naphthylene if G<sup>1</sup> and G<sup>2</sup> are optionally substituted 1,4-phenylene.

26. (original): A polymerizable dichroic azo dye according to claim 25, wherein Ar<sup>1</sup>,  
Ar<sup>2</sup>, Ar<sup>3</sup> and Ar<sup>4</sup> independently of each other are 1,4-phenylene, which is unsubstituted, mono-  
or disubstituted by chlorine or -CH<sub>3</sub> or unsubstituted 1,4-naphthylene, with the proviso that at  
least one of Ar<sup>1</sup>, Ar<sup>2</sup>, Ar<sup>3</sup> or Ar<sup>4</sup> is unsubstituted 1,4-naphthylene if G<sup>1</sup> and G<sup>2</sup> are optionally  
substituted 1,4-phenylene.

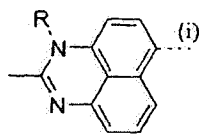
27. (currently amended): A polymerizable dichroic azo dye according to ~~anyone of~~  
~~claims 2 to 26~~ claim 1, wherein  
G<sup>1</sup> and G<sup>2</sup> independently of each other are 1,4-phenylene or 1,4-naphthylene, which are  
unsubstituted, mono- or disubstituted by fluorine, chlorine, -OCH<sub>3</sub> or -CH<sub>3</sub>, ~~preferably~~  
~~1,4-phenylene, which is unsubstituted, mono- or disubstituted by chlorine or -CH<sub>3</sub> or~~  
~~unsubstituted 1,4-naphthylene; or a group of formula b), c) and d), preferably a group of~~  
~~formula b) and c)~~, which are unsubstituted and wherein the broken lines (i) symbolize the  
linkage to the azo-binding group and R, E have the meaning given above



b),



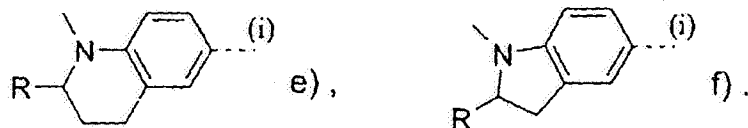
c),



d);

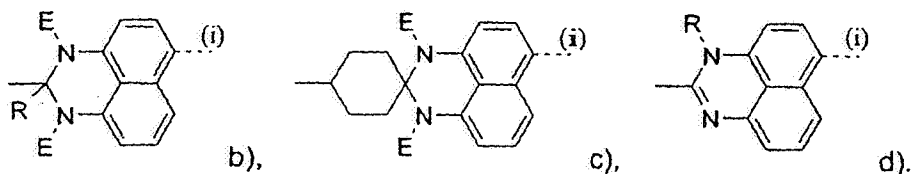
or

a group of formula e) and f), which is unsubstituted and wherein the broken lines (i) symbolize the linkage to the azo-binding group and R represents hydrogen or lower alkyl



28. (currently amended): A polymerizable dichroic azo dye according to claim 27, wherein

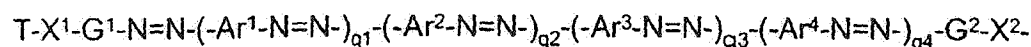
G<sup>1</sup> and G<sup>2</sup> independently of each other are 1,4-phenylene or 1,4-naphthylene, which are unsubstituted, mono- or disubstituted by fluorine, chlorine, -OCH<sub>3</sub> or -CH<sub>3</sub>, preferably 1,4-phenylene, which is unsubstituted, mono- or disubstituted by chlorine or -CH<sub>3</sub> or unsubstituted 1,4-naphthylene; or a group of formula b), c) and d), preferably a group of formula b) and e), which are unsubstituted and wherein the broken lines (i) symbolize the linkage to the azo-binding group and R, E have the meaning given above



29. (original): A polymerizable dichroic azo dye of the general formula I:



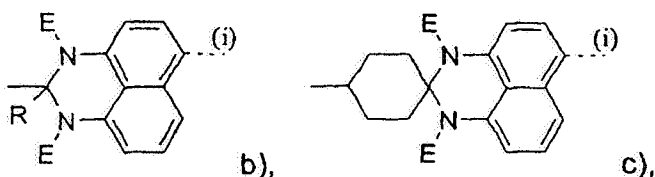
wherein A is a dichroic residue of general formula IIIa



IIIa

wherein

$G^1$  and  $G^2$  independently of each other represent 1,4-phenylene, which is unsubstituted, mono- or disubstituted by chlorine or  $-CH_3$ , or unsubstituted 1,4-naphthylene; or a group of formula b) or c)



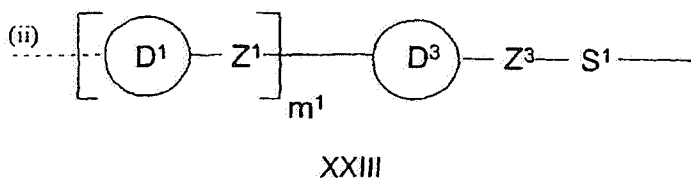
wherein the broken lines (i) symbolize the linkage to the azo-binding group; and wherein

E independently represents hydrogen, methyl and acetyl;

R independently represents hydrogen, methyl, ethyl, propyl and isopropyl;

$X^1$  and  $X^2$  independently of each other represent a covalent bond,  $CH_2-CH_2-$ ,  $-CO-O-$ ,  $-O-CO-$ ,  $-CH_2-O-$ ,  $-O-CH_2-$ ,  $-NR-$  or  $-CH_2-NR-$ ,  $-NR-CH_2-$ ,  $-NR-CO-$  or  $-CO-NR-$ , wherein R has the meaning given above;

B represents a group of substructure XXIII



wherein the broken line (ii) symbolizes the linkage to said dichroic residue;

and wherein



$\text{Ar}^1, \text{Ar}^2, \text{Ar}^3, \text{Ar}^4$  are independently of each other 1,4-phenylene, which is unsubstituted, mono- or disubstituted by chlorine or  $-\text{CH}_3$ , or unsubstituted 1,4-naphthylene, with the proviso that if  $\text{G}^1$  and  $\text{G}^2$  are optionally substituted 1,4-phenylene at least one of  $\text{Ar}^1, \text{Ar}^2, \text{Ar}^3$  or  $\text{Ar}^4$  is unsubstituted 1,4-naphthylene;

$q^1, q^2, q^3, q^4$  independently are 0 or 1, with the proviso that the sum of the integers  $q^1 + q^2 + q^3 + q^4 + 0, 1, \text{ or } 2$ ;

$\text{P}$  and  $\text{P}^1$  independently of each other represent hydrogen, halogeno, cyano, nitro or a polymerizable group PG, wherein PG includes  $\text{CH}_2=\text{CY}-\text{COO}-$ ,  $\text{CH}_2=\text{CH}-\text{O}-$  and  $\text{CH}_2=\text{CH}-\text{OOC}-$ , wherein Y is hydrogen or methyl;

$\text{D}^1, \text{D}^3, \text{D}^4$  and  $\text{D}^5$  independently of each other represent 1,4-phenylene, which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, methyl, methoxy, acyl or  $-\text{CO}-\text{O}-\text{CH}_3$ ;

$\text{Z}^1, \text{Z}^3, \text{Z}^4$  and  $\text{Z}^5$  independently of each other represent selected from a group consisting of a single covalent bond,  $-\text{CO}-\text{O}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{CH}_2-\text{O}-$  or  $-\text{O}-\text{CH}_2-$ ;

$\text{S}^1$  and  $\text{S}^2$  represent independently of each other a single bond, ethylene, propylene, butylene, pentylene, hexylene, heptylene, octylene, nonylene, decylene, undecylene, or dodecylene and

$m^1, m^3, m^4$  are independently of each other 0 or 1.

30. (original): A polymerizable dichroic azo dye according to claim 29, wherein if  $\text{G}^1$  and  $\text{G}^2$  independently of each other represent a group of formula b) or c),  $\text{X}^1$  and  $\text{X}^2$  independently of each other represent a covalent bond or  $\text{CH}_2-\text{CH}_2-$ .

31. (currently amended): ~~Use of a polymerizable dichroic azo dye according to any preceding claim~~Method for the preparation of mesogenic, polymerizable mixtures comprising polymerizing a polymerizable dichroic azo dye according to claim 1.

32. (currently amended): A mesogenic, polymerizable mixture comprising at least one polymerizable dichroic azo dye of formula I according to ~~any preceding claim~~ 1.

33. (currently amended): A mesogenic, polymerizable mixture according to claim 32, wherein the polymerizable dichroic azo dye is at a concentration of 0.01 to 50% wt, ~~more preferably from 0.01 to 20% wt, most preferably from 0.01 to 10% wt.~~

34. (currently amended): A mesogenic, polymerizable mixture according to claim 32 ~~or 33~~ further comprising another dichroic or non-dichroic dye.

35. (currently amended): A mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 34 further comprising at least one polymerizable liquid crystal (LCP).

36. (currently amended): A mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 35 further comprising additives ~~such as~~ selected from the group consisting of crosslinkers, stabilizers and photoinitiators.

37. (currently amended): A mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 36 comprising at least one dichroic dye of formula I and at least one polymerizable liquid crystal compound and optionally additives ~~such as~~ selected from the group consisting of crosslinkers, stabilizers and photoinitiators.

38. (currently amended): A mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 37 comprising one to four dichroic dyes of formula I and at least one polymerizable liquid crystal compound comprising two polymerizable groups and optionally

~~additives such as~~ selected from the group consisting of crosslinkers, stabilizers and photoinitiators.

39. (currently amended): ~~Use of a mesogenic, polymerizable mixture according to anyone of claims 32 to 38~~ Method for the preparation of dichroic liquid crystalline polymer films comprising polymerizing a mesogenic, polymerizable mixture according to claim 32.

40. (currently amended): A dichroic liquid crystalline polymer film comprising a mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 38.

41. (currently amended): ~~Use of a dichroic liquid crystal film according to claim 40 in~~ Method for the manufacture of ~~devices such as polarizers or optical filters~~ a polarizer or optical filter comprising incorporating a dichroic liquid crystalline film according to claim 40 into a polarizer or optical filter.

42. (currently amended): Process of preparing a dichroic liquid crystalline polymer film comprising a mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 38 comprising (i) preparing a solution of said mixture, (ii) applying said solution to a substrate by different coating techniques, (iii) evaporating the solvent to obtain a film, and (iv) polymerizing said film using UV light to give said dichroic liquid crystal film.

43. (currently amended): Process according to claim 42, wherein the dichroic liquid crystal films are further coated with ~~other layers, such as~~ protective layers for protection against oxygen, UV irradiation or mechanical stress.

44. (currently amended): Process according to ~~claims~~ claim 42 ~~or 43~~, wherein the substrates include transparent substrates, ~~such as~~ which are glass or plastic, including an orientation layer.

45. (currently amended): Process according to claim 44, wherein said orientation layer includes rubbed polyimide, ~~or polyamide or preferably layers~~ a layer of photo-orientable ~~materials~~ material.

46. (original): Process according to claim 45, wherein said photo-orientable orientation layers are Linearly Photopolymerizable Polymers (LPP).

47. (currently amended): Multilayer systems formed from stacks of alternating LPP and LCP layers, wherein at least one of the LCP layers is a dichroic LCP film according to claim 40, and which are optionally covered by ~~other functional layers, such as~~ protecting layers against oxygen or humidity or layers for protection against ultraviolet radiation.

48. (currently amended): Process of preparing a dichroic liquid crystalline polymer film comprising a mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 38 comprising (i) preparing a solution of said mixture, (ii) admixing said solution with a photo-orientable material, (iii) evaporating the solvent to obtain a film, and (iv) polymerizing said film using UV light to give said dichroic liquid crystal film.

49. (currently amended): ~~Use of a mesogenic, polymerizable mixture according to anyone of claims 32 to 38~~ Method for the preparation of electro-optical and optical devices including security devices comprising polymerizing a mesogenic, polymerizable mixture according to claim 32 to form a polymer, and preparing the electro-optical and optical devices with the polymer.

50. (currently amended): ~~Use of a dichroic liquid crystalline polymer film according to claim 40~~ Method for the preparation of electro-optical and optical devices including security devices comprising incorporating a dichroic liquid crystalline polymer film according to claim 40 into electro-optical and optical devices including security devices.

51. (currently amended): Electro-optical or optical component or a security device comprising a dichroic liquid crystalline polymer film formed from a mesogenic, polymerizable mixture according to ~~anyone of claims~~ claim 32 to 38.

52. (currently amended): Orientation layer comprising at least one polymerizable dichroic azo dye according to ~~anyone of claims~~ claim 1 to 30.

53. (currently amended): Orientation layer according to claim 52 further comprising rubbed polyimide, ~~or polyamide or preferably layers~~ a layer of photo-orientable ~~materials~~ material.

54. (currently amended): ~~Use of an orientation layer according to claims 52 or 53 in~~  
the Method for the manufacture of optical or electro-optical components, such as selected from the group consisting of structured or and unstructured optical filters, polarizers or and elements of security devices, comprising incorporating an orientation layer according to claim 52 in optical or electro-optical components selected from the group consisting of structured and unstructured optical filters, polarizers and elements of security devices.